What is claimed is:

1. A method for correcting an angle-measuring and/or distance-measuring sensor system (1), with which

- sinusoidal and cosinusoidal measurement signals (x_i, y_i) obtained by scanning a moved object of measurement in a magnetic field are evaluated, and with which
- angle errors and/or phase errors of the measurement signals (x_i, y_i) are corrected, **wherein**
- the method for correcting the angle-measuring and/or distance-measuring sensor system is composed of a compensation process and a subsequent correction process, whereby
- in the compensation process, offset values (x_0, y_0) from a specified number (N of i=1 . . . N) of pairs of measured values (x_i, y_i) obtained by rotating the magnetic field are provided for the sinusoidal and cosinusoidal measurement signals (x_i, y_i) and correction parameters (m_1, m_2) by applying the least squares of errors method and solving a linear system of equations, and

- a corrected pair of measured values (x_i', y_i') is determined from each pair of measured values (x_i, y_i) in the correction process.

2. The method as recited in Claim 1,
wherein
the angle (α) to be measured is determined from the particular corrected pairs of measured values (x_i', y_i') using an algorithm.

3. The method as recited in Claim 2,
wherein
the angle (α) to be measured is determined in the correction process based on the relationship $\alpha = arc(x' + i \cdot y')$.

4. The method as recited in one of the preceding Claims,
wherein,
- the corrected pair of measured values (x_i', y_i') is determined in the correction

process based on the relationships

- $x_i' = x_i - x_0$ and $y_i' = m_1 \cdot x_i' + m_2 (y_i - y_0)$.

5. The method as recited in one of the preceding Claims,

wherein,

- the pairs of measured values (x_i, y_i) determined in the compensation process are located on ellipses and satisfy the following equation:
- $f(x,y) = w_1 \cdot x^2 + 2 \cdot w_2 \cdot x \cdot y + w_3 \cdot y^2 + 2 \cdot w_4 \cdot x + 2 \cdot w_5 \cdot y + 1$,
- whereby the parameters of the ellipse ($w_1 \ldots w_5$) are determined using the least squares of errors (g) method, with

- $$g = \sum_{i=1}^{N} f(x_i, y_i)^2 = \min.$$

6. The method as recited in Claim 5,

wherein,

- the derivative of the square of errors (g) is taken with respect to each of the parameters of the ellipse ($w_1 \ldots w_5$), and the particular derivative is set equal to zero, to determine a minimum, and
- the particular derivatives are used to create the linear system of equations, so that, using a suitable elimination process, the system of equations is solved for the required parameters of the ellipse ($w_1 \ldots w_5$) and, based on this, the offset values (x_0, y_0) and the correction parameters (m_1, m_2) are determined.

7. A system for carrying out a method as recited in one of the preceding Claims,

wherein

the sensor system, together with a compensation and evaluation circuit (3,7) for correcting the measured values, is installed on an integrated microchip.

8. The sensor system as recited in Claim 7,

wherein

the microchip with the sensor system and the compensation and evaluation circuit (3,7) includes interfaces (6,10) for the input and/or output of data and/or parameters.

9. The sensor system as recited in one of the Claims 7 or 8,
wherein
the microchip with the sensor system and the evaluation circuit is used as a steering angle sensor in a motor vehicle.